



Substitute for form 1449A-B/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)	Complete if Known	
	Application Number	09/494,282
	Filing Date	January 18, 2000
	First Named Inventor	Sergey A. Selifonov
	Group Art Unit	1631
	Examiner Name	Zhou S.
Attorney Docket Number		02-028930US

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known)			
2	AA	6,188,965	B1	Mayo et al. 702/19	02-13-2001	
2	AB	6,269,312	B1	Mayo et al. 702/19	07-31-2001	

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		Office	Number	Kind Code (if known)				
2	AC	WO	00/23564	A2	Xencor, Inc	04-27-2000		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS							
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					T
• 2	AD	CHAMBERLAIN ET AL. (1990) "Multiplex PCR for the Diagonosis of Duchenne Muscular Dystrophy." <i>PCR Protocols</i> 272-281.					
• 2	AE	HAYASHI ET AL. (1994) "Simultaneous Mutagenesis of Antibody CDR Regions by Overlap Extension and PCR." <i>BioTechniques</i> 17(2):310-315.					
• 2	AF	JIRHOLT ET AL. (1998) "Exploiting sequence space: shuffling in vivo formed complementarity determining regions into a master framework." <i>Gene</i> 215:471-476.					
• 2	AG	KOBAYASHI ET AL (1997) "Analysis of Assembly of Synthetic Antibody Fragments: Expression of Functional scFv with Predefined Specificity." <i>BioTechniques</i> 23(3):500-503.					
• 2	AH	PRODROMOU ET AL (1992) "Recursive PCR: a novel technique for total gene synthesis." <i>Protein Engineering</i> 5(8):827-829.					
• 2	AI	SODERLIND ET AL.(1999) "Complementarity-determining region (CDR) implantatio: a theme or recombination." <i>Immunothnology</i> 4:279-285.					
• 2	AJ	SODERLIND ET AL. ( (2000) "Recombining germline0derived CDR sequences for creating diverse single-framework antibody libraries." <i>Nature Biothecnology</i> 18:852-856.					
• 2	AK	SODERLIND ET AL. (1995) "Domain libraries: Synthetic diversity for de novo design of antibody V-regions." <i>Gene</i> 160:269-272.					

Examiner Signature	<i>S. Zhou</i>	Date Considered	11/13/01
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<i>AS</i>	AA	4,959,312		Sirokin	09-25-1990	
<i>AS</i>	AB	4,994,379		Chang	02-19-1991	
<i>AS</i>	AC	5,043,272		Hartly et al.	08-27-1991	
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<i>AS</i>	AE	5,447,839		Manos et al.	09-05-1995	
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<i>AS</i>	AY	6,153,410		Arnold et al.	11-28-2000	
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JUN 8 2001  
PATENT & TRADEMARK OFFICE

BV	COLE-STRAUSS ET AL. "Correction of the Mutation Responsible for Sickle Cell Anemia by an RNA-DNA Oligonucleotide." <i>Science</i> 1386-1389 (1996)
BW	DALE ET AL. "Oligonucleotide-directed Random Mutagenesis Using the Phosphorothioate Method." <i>Methods Mol. Biol.</i> 57:369-374 (1996)
BX	DELAGRAVE "Searching Sequence Space to Engineer Proteins: Exponential Ensemble Mutagenesis." <i>Biotechnology (N Y)</i> . 1993 Dec;11(13):1548-52.
BY	DELAGRAVE "Recursive ensemble mutagenesis." <i>Protein Eng.</i> 1993 Apr;6(3):327-31.
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CA	Egea Biosciences, Inc. "Pathway to the Proteome"
CB	FODOR ET AL. "Light-Directed, Spatially Addressable Parallel Chemical Synthesis." <i>Science</i> 251:767-777 (1991)
CC	FODOR "Genome Analysis: Genome Technology." <i>FASEB Journal</i> 11:121 (1997)
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CE	GOLDMAN "An Algorithmically Optimized Combinatorial Library Screened by Digital Imaging Spectroscopy." <i>Biotechnology (N Y)</i> . 1992 Dec;10(12):1557-61.
CF	HILL ET AL. "The structure of granulocyte-colony-stimulating factor and its relationship to other growth factors." <i>PNAS</i> 90:5167 (1993)
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CH	KARLIN ET AL. "Applications and statistics for multiple high-scoring segments in molecular sequences." <i>PNAS USA</i> 90:5873-5787 (1993)
CI	KAYUSHIN ET AL. "A convenient approach to the synthesis of trinucleotide phosphoroamidites-synthon for the generation of oligonucleotide/peptide libraries." <i>Nucleic Acids Res.</i> 24:3748-3755 (1996)
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CK	KREN ET AL. "In Vivo site-directed mutagenesis of the factor IX gene by chimeric RNA/DNA oligonucleotides." <i>Nature Medicine</i> 4(3):285-290 (1998)
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CM	LING ET AL. "Approaches to DNA Mutagenesis: An Overview." <i>Anal Biochem.</i> 254(2):157-178 (1997)
CN	MEHLING ET AL. "Nucleotide sequences of streptomycete 16S ribosomal DNA: towards a specific identification system for streptomycetes using PCR." <i>Microbiology</i> 141:2139-2147 (1995)
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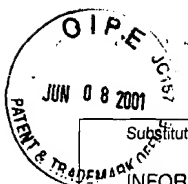
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A	CQ	NAKAMAYE ET AL. "Inhibition of restriction endonuclease Nci I Cleavage by phosphorothioate groups and its applications to oligonucleotide-directed mutagenesis." <i>Nucleic Acids Res.</i> 14:9679-9698 (1986)	
A	CR	NEEDLEMAN ET AL. "A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins." <i>J. Mol. Biol.</i> 48:443 (1970)	
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A	CT	PATHY "Introns and exons." <i>Curr. Opinion in Structural Biology</i> 4:383-392 (1994)	
A	CU	PEARSON ET AL. "Improved tools for biological sequence comparison." <i>PNAS</i> 85:2444 (1988)	
A	CV	PORTER ET AL. "Direct PCR Sequencing with boronated Nucleotides." <i>Nucleic Acids Res.</i> 25(8):1611-1617 (1997)	
A	CW	ROBLES "Hydropathy and Molar Volume Constraints on Combinatorial Mutants of the Photosynthetic Reaction Center." <i>J Mol Biol.</i> 1993 Jul 5;232(1):242-52.	
A	CX	SAYERS ET AL. "5'-3' Exonucleases in phosphorothioate-baised oligonucleotide-directed mutagenesis." <i>Nucleic Acids Res.</i> 16:791-802(1988)	
A	CY	SAYERS ET AL. "Strand specific cleavage of phosphorothioate-containing DNA by reaction with restriction endonucleases in the presence of ethidium bromide." <i>Nucleic Acids Res.</i> 16:803-814 (1988)	
A	CZ	SMITH "In Vitro Mutagenesis." <i>Ann. Rev. Genet.</i> 19:423-462 (1985)	
A	DA	SMITH ET AL. "Comparison of Biosequences." <i>Adv. Appl. Math</i> 2:482 (1981)	
A	DB	STRAUSS "The Site-Specific Correction of Genetic Defects." <i>Nature Medicine</i> 4:274-275 (1998)	
A	DC	TAYLOR ET AL. "The use of phosphorothioate-modified DNA in restriction enzyme reactions to prepare nicked DNA." <i>Nucleic Acids Res.</i> 13:8749-8764 (1985)	
A	DD	TAYLOR ET AL. "The rapid generation of oligonucleotide-directed mutations at high frequency using phosphorothioate-modified DNA." <i>Nucleic Acids Res.</i> 13:8765-8787 (1985)	
A	DE	VIRNEKAS ET AL. "Trinucleotide phisphoramidites: ideal reagents for the synthesis of mixed oligonucleotides for random mutagenesis." <i>Nucleic Acids Res.</i> 22:5600-5607 (1994)	
A	DF	VON DER OSTEN ET AL. "Protein engineering of subtilisins to improve stability in detergent formulations." <i>J. Biotechnol.</i> 28:55-68 (1993)	
A	DG	WELLS "Importance of hydrogen-bond formation in stabilizing the transition state of subtilisin." <i>Trans. R. Soc. Lond. A317</i> :415-423 (1986)	
A	DH	WHIPPLE ET AL. "Application of Genetic Algorithms to Combinatorial Synthesis: A Computational Approach to Lead Identification and Lead Optimization." <i>J. AM. Chem Soc.</i> 118:1669-1676 (1996)	
A	DI	XIANG ET AL. "Targeted gene conversion in a mammalian CD34+-enriched cell population using a chimeric RNA/DNA oligonucleotide." <i>J. Mol. Med.</i> 75:829-835 (1997)	
A	DJ	YOON ET AL. "Targeted gene correction of episomal DNA in mammalian cells mediated by a chimeric RNA-DNA oligonucleotide." <i>PNAS</i> 93:2071-2076 (1996)	
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	DL	YOUNG ET AL. "Characterization of the Receptor binding determinants of granulocyte colony stimulating factor." <i>Protein Science</i> 6:1228-1236 (1997)	
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		Office	Number	Kind Code (if known)				
BF	WO	00/00632			Phylos, Inc.	01-06-2000		
BG	WO	00/37684			KIRS & FELDER	06-29-2000		
BH	WO	00/53744			Diversa Corporation	09-14-2000		
BI	WO	00/58517			Diversa Corporation	10-05-2000		
BJ	WO	92/06176			Ixsys, Inc	04-16-1992		
BK	WO	97/33957			Amway Corporation	09-18-1997		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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Examiner  
Signature

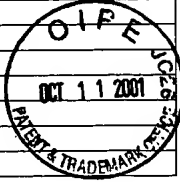
*S. Selifonov*


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	AA	5,066,584		Gyllensten et al.	11/19/1991	

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